

3-16-77

EEE BRANCH REVIEW

	3/15		3/16/77	
DATE:	IN	OUT	IN	OUT
	FISH & WILDLIFE		ENVIRONMENTAL CHEMISTRY	
			EFTICACY	

FILE OR REG. NO. 524-308

PETITION OR FWP. PERMIT NO.

DATE DIV. RECEIVED 1/3/77

DATE OF SUBMISSION 12/20/76

DATE SUBMISSION ACCEPTED

TYPE PRODUCT(S): I, D, (H), F, N, R, S Herbicide

PRODUCT MGR. NO. Bob Taylor (25)

PRODUCT NAME(S) Roundup

COMPANY NAME Monsanto

SUBMISSION PURPOSE Amend added use to turfgrass renovation.

CHEMICAL & FORMULATION Glyphosate: Isopropylamine salt of
N-(phosphonomethyl) glycine - 41%
(4 lb ai/gal).

200.0 Introduction

200.1 Uses:

See attached use sheet.

200.2 Background Information:

Monsanto Company is requesting amended registration of Roundup (Glyphosate) to include use to Turfgrass renovation as well as adding Bentgrass to the partial list of perennial weed species controlled by Roundup. Additionally, weed species on the Roundup Label were rearranged in an alphabetical order without the "common" prefixes.

Roundup is currently registered for use as a non-selective herbicide in industrial and non-crop areas, in non-bearing apple and cherry trees, in some fruit and nut trees, and in cropping systems as a preemergence herbicide in barley, corn, oats, sorghum (milo), soybeans, and wheat (EPA Reg. No. 524-308). Proposed Label amendment is an insertion to the current registered label.

201.0 Data Summary

201.1 Abstract of Test Reports

Company summary tables (9) and a copy of the proposed label amendment are filed in the EEEB.

201.2 Brief Description of Tests:

Data were from 25 small replicated test trials from 12 states where turf renovation was evaluated using Roundup and several other standard herbicides under field and greenhouse conditions. There seems to be general agreement among researchers and turf management in that use of herbicides in renovation is more practical and economical than the conventional methods such as tillage.

Data submitted were collected during 1971-75, generated under state use permits such as Cal. EUP No. 41004. Roundup was applied to established non-desired turf species at 1.5 - 16 lb. ae/A. Control trials included non-treated plots as well as plots treated with standard herbicides such as Dalapon, Paraquat, Siduron, Silvex, and Cacodylic acid. ~~Non desired species as well as desired species but~~

~~heavily infested with~~ Non-desired species included: Bahiagrass, Bentgrass, Bermudagrass, Bluegrass, Nimblewill, Fescue (tall, red), Kentucky Bluegrass, Orchardgrass, Quackgrass, Redtop, Ryegrass, Sandbur, Timothy, and Ryegrass. Desired species were reseeded on the same day of application or soon after up to 24 days from treatment. Desired species included: Zoysia, Centipede, Lovegrass, Ryegrass, Kentucky Bluegrass, and Fescue (fine, tall, red).

At label recommended rates and directions, Roundup provided acceptable control of non-desired species including the newly claimed Bentgrass without affecting the safety of desired species. Acceptable control of non-desired species was evident in some test trials rated 237 days from treatment. When reseeding was accomplished on the same day of treatment, roundup did not affect turfgrass seed germination or growth (Mosher, L. et al; 1976. Effects of glyphosate and diuron on turfgrass establishment. Weed Science 24:445-8).

202.0 Conclusions

202.1 Claims Supported by the Data Submitted:

Data submitted showed that Roundup (glyphosate) has potential for turfgrass renovation as a non-selective herbicide when used prior to overseeding or at the time of reseeding desirable species.. Additionally, Roundup effectively controlled Bentgrass when used during turfgrass renovation.

202.2 Additional Data Required to Support Claims and Achieve Amended Registration:

- ^{If}
- 1) ^ Roundup is recommended for turfgrass renovation of home lawns, efficacy and phytotoxicity data must be submitted to support this use pattern. If not, Label must state that "Roundup is not recommended for turfgrass renovation of home lawns."
 - 2) Submit additional data to support use of Roundup at the time of reseeding desirable grass species. Required data would include percentage seed germination as well as seedling vigor and stand density relative to non-treated test trials.

203.0 Label Comments:

- 1) Proposed Label amendment must recommend methods of reestablishing desired turfgrass; e.g. reseeding, plugging.. etc. Additionally, Label must recommend the optimum time of turf renovation for each method after last application with Roundup.
amendment must show that Bentgrass
- 2) Proposed Label is controlled only in turfgrass and must be removed from the list of perennial weeds common to all use patterns in the Roundup Label.

204.0 Recommendations:

Proposed Label amendment extending use of Roundup to turfgrass renovation and the new listings of weed species on the Registered Label are acceptable after resolving the above comments beginning from the Conclusion Section (202.0).

Sami Malak

Sami Malak
Herbicide Efficacy Section
Efficacy & Ecological Effects Branch

3/16/77

E *[Signature]*

USE	TOLERANCE P.P.M.	RATE		APPLICATION	LIMITATIONS AND REMARKS
		ACTUAL LBS/ACRE	in 4 lb. 41/gal.		
<p>TURFGRASS</p> <p>Add: Bentgrass to the partial list of weed species controlled by Roundup.</p>				<p>When applied as directed, under conditions described, this product controls most existing vegetation. Apply this product at rates specified in the "Weeds Controlled" Section of this label before turfgrass establishment or renovation.</p> <p>Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth given in the "Weeds Controlled" Section of this label.</p> <p>Where existing vegetation is growing under mowed turf grass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.</p> <p>See "Directions For Use" section of this label for specific application instructions.</p>	<p>DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT.</p> <p>For maximum control of existing vegetation, delay establishment to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm season grasses, such as bermudagrass, summer or fall applications provide best control.</p> <p>Desirable turfgrasses may be established following the above procedures.</p> <p>EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURFGRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.</p>

Roundup does not provide residual weed control, follow a label approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

*Herbicide Monsanto